IMPROVING THE BUSINESS RESILIENCE OF AN ORGANIZATION BY APPLYING AGILE PROJECT MANAGEMET APPROACH

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Abstract:

The global crisis caused by the COVID-19 pandemic triggered the need for organizations to become more flexible to environmental changes, initiate and improve the processes of digital transformation in business, develop a corporate culture based on innovation and creativity and apply the concept of strategic management. The impact of a crisis is minimized if organizations are planning. The subject of this research is the analysis of the case of an organization that uses the Agile project management approach. The goal of this research is to consider the possibility of improving business resilience by applying Agile in the organization's planning. Content analysis based on a case study method was used in the research. The research contributes to the greater ability of organizations to adapt to changes in a turbulent and dynamic environment, especially in times of crisis, with the aim of maintaining, developing, and growing business through applying Agile.

1. INTRODUCTION

Every region in the world was once and, in some way, affected by some crisis event, caused by the action of natural or human factors, which, in a shorter or longer period, affected the behavior of consumers and the functioning of businesses and the economy of the region in general. Business resilience and innovation interact with global market operations and participation in global value chains. Due to the impact of the crisis, the performance of daily business operations must be flexible, adapt to the demands of the environment, on the one hand, achieve sustainability, and generate profit on the other hand. The global crisis caused by the COVID-19 pandemic influenced organizations to be more resilient to changes in the environment, to initiate and improve the processes of digital transformation in business, to develop a corporate culture based on digital innovation and creativity, as well as to start the strategic management concept implementation. Organizations that already operated on the global market and integrated into global value chains adapted to the working conditions imposed by the pandemic more easily. These organizations were more digitally innovative, more creative in strategic management, and more prepared for a turbulent environment, and they quickly reoriented themselves to work remotely, adjusted production, and used available support measures in crises more efficiently.

The subject of this research is the analysis in the case of an organization that uses the Agile project management approach. The Agile project management approach supports the implementation of strategic management concept through the completion of activities within the planned resources, the planned budget, and the planned time of the project. The Software Company Remote Human LLC from Niš was a case in which the application of the Agile approach in strategic

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management and planning during the crisis caused by the COVID-19 pandemic was analyzed. The goal of this research was to consider the possibility of improving business resilience by applying the Agile project management approach in the strategic planning of the organization. Content analysis based on the case study method was used in the research. This research contributes to the greater ability of organizations to adapt to changes in a turbulent and dynamic environment, especially in a crisis, with the aim of maintaining, developing, and growing business by applying the Agile approach.

This research consists of four sections. *The literature review section* provides the analysis of scientific and professional materials related to the impacts of both the macro environment and the global coronavirus crisis on business resilience. Also, this section is considering the need to change corporate culture for achieving business sustainability in the time of crisis, the initiation of digital transformation and implementation of digital innovation to improve business resilience during the crisis, and the application of strategic management concepts for the development and growth of the organization, and the introduction of principles of Agile project management approach. *The methodology section* involves the explanation of using the case study method in the case of the Software Company Remote Human LLC from Niš. The results section includes the findings of the case study analysis. *The discussions and Conclusions section* summarizes findings; proposes recommendations and future research directions.

2. LITERATURE REVIEW

2.1. MACRO ENVIRONMENT AND COVID-19 IMPACTS ON THE BUSINESS RESILIENCE

Organizations depend on macro environment factors: political, economic, socio-cultural, and technological, and it is necessary to choose a suitable strategy to realize significant performance, which is measured by total turnover, profitability after tax, sales volume, and capacity utilization (Mbithi et al., 2017). As per (Yustian, 2021), entrepreneurial competence has an influence on small and medium enterprises' business success during the COVID-19 pandemic by having a higher influence than the business environment on business success but if the business environment is not properly organized, it has the worse effect on business success. The global COVID-19 pandemic led to a massive shutdown of businesses, just the number of active business owners dropped by 22% from February to April 2020, and small businesses needed more support from governments and an understanding of customers to accept online vendors (Fairlie & Fossen, 2022).

As per (Ajili & Ben Slimene, 2021) the COVID-19 crisis influenced changing the order of business objectives in a manner that business resilience became more important than effectiveness, efficiency, and the criteria of global performance.

2.2. CHANGING CORPORATE CULTURE TO BUSINESS SUSTAINABILITY IN A TIME OF CRISIS

In extraordinary circumstances, organizations must be open to new practices, and ready to experiment, in order to preserve corporate cultural values and keep employees feeling safe because otherwise, they would act defensively or recklessly and not take a critical attitude towards changes in corporate culture (Spicer, 2020). As per (AL-Omari & Al'Abri, 2021) the gender and experience of employees play a key role in predicting whether the corporate culture will be affected by the global coronavirus crisis. Embedding knowledge-sharing within the organization may maintain a high level of learning during the crisis (Alonazi, 2021). The COVID-19 pandemic led organizations to emphasize cultural elements related to readiness for changes, challenges, help, decision-making, and being open, more than other elements related to customers, personality, perfection, results, and cooperation, which means that corporative cultures in the pandemic time have put attention on emotion, understanding, and mutual support instead of earlier attention on high performance (Brown, et al., 2021).

2.3. DIGITALIZATION TO IMPROVE THE BUSINESS RESILIENCE

Technology investment contributes to organizations to setup systematic control in business processes and supports talented and innovative employees to grow their capabilities in times of crisis (He et al., 2021). For achieving business resilience, important configurations are "digital transformation and exploitative innovation, digital transformation and exploratory innovation, and exploitative innovation and exploratory innovation" (Zhang et al., 2021, p. 1). As per (Jansen, 2022), good portfolio management is building by crossing the exploitative innovations, but in the more competitive market, organizations have to be exploratory and find new strategies. For the sustainability of small and medium enterprises, they need to urgently adopt and accept digital actions, learn, and prepare for the new reality (Larios-Hernandez, 2021). The role of clusters and networks in the digital transformation of enterprises is very important for the business resilience of small and medium enterprises (Milojković, 2013).

2.4. STRATEGIC MANAGEMENT CONCEPT TO THE DEVELOPMENT AND GROWTH OF AN ORGANIZATION

The application of a concept based on strategic management implies the implementation of certain organizational changes in the field of determination of the strategic goals, the strategic analysis of the environment, the formulation of strategic alternatives, the implementation of strategy, as well as the changes in corporate culture (Milojković, 2008). While strategic management uses and develops new opportunities for tomorrow, strategic planning optimizes today's trends for tomorrow (David, 2011). A strategic plan is a "company's game plan" to compete successfully (David, 2011, p. 6). Due to the global economic recession companies' profit margins have been reduced and there is no space for mistakes in the strategic plan (David, 2011). While the development of an organization defines changes in an organization's age, the growth of the organization presents changes in an organization's size measured by the number of employees (Starbuck, 1965).

2.5. THE PRINCIPLES OF THE AGILE PROJECT MANAGEMENT APPROACH

In the post-global coronavirus pandemic time, the projection of economic growth in 2022 by the International Monetary Fund is 4.9% and 2.3 million project manager positions will open by 2030 (Project Management Institute, 2022). Statistics indicate that 48% of projects did not finish in time, 43% of projects finished over the approved project budget, and 31% of projects met less than the project aims (Kanbanize, 2022), which favors the need for the application of sophisticated software solutions and trained staff in the field of project management and business development and growth. Project professionals are born change-makers fully aware of the world's challenges (Project Management Institute, 2022). The study (Martens & Carvalho, 2016, p. 14) identified the four factors that explain sustainability in project management: "sustainable innovation business model", "stakeholders management", "economics and competitive advantage", and "environmental policies and resources saving". There are many project management approaches and modern project management professionals choose the Agile project management approach that is originally used in the development of digital products (Meick, 2020). In software development project management, the Agile project management approach supports client-based iterative processes that contribute to business development, collaboration, and the satisfaction of market trends (Drumond, 2022). Scrum is a methodology of the Agile project management approach that products are developed in iterations series from planning to retrospectives, which is supported by a project management tool named Jira Software (Atlassian, 2022). The Agile project management approach is developed by respecting the Agile Manifesto methodology values and 12 principles (Schön et al., 2015) based on customer satisfaction by in-time delivery of valuable products, competitive advantage based on accepting the change of customers' requirements, the frequently delivering of products, daily collaboration between business people and developers, highly motivated team members, face-to-face dialogue, operational digital product as a measure of progress, sustainable development promotion, technical and design excellence, simplicity, the building of self-organizing and effective teams (Agile Alliance, 2022).

3. METHODOLOGY

Through the content analysis, the subject of the research was more deeply understood and explained, and the regularities based on the principles of application of the Agile project management approach were pointed out. Data collection was carried out using the case study method in the case of the Software Company Remote Human LLC from Niš which is experienced in the Agile project management approach application. The case study method consisted of the observation of chosen company, the mapping of influential factors on the research goal, and the structured questionnaire for the management of the company. The questionnaire for the case study preparation consisted of 75 questions divided into the following 6 sections: company information, Agile project management implementation, Agile principles implementation, company communication canals, motivation, and company excellency.

4. RESEARCH RESULTS

Case study on improving the business resilience of the Software Company Remote Human LLC from Niš by applying the Agile approach

Remote Human is a multi-disciplinary engineering start-up company in Serbia, based in Niš that allows a user to experience the world from a remote robot's perspective using a virtual reality head-mounted display. The company operates in the information technology sector and it is specialized in artificial intelligence and virtual reality technology. Their vision is to prepare humanity for the next industrial revolution and the future of work that will look very different than it is currently and their general goal is to provide more information technology engineers.

Due to the fact that Remote Human is a start-up company, they missed situations related to facing problems before they started to use Agile project management as an interactive approach for managing projects of digital product development. Productivity and efficiency were the main reasons for them to choose the Agile approach

for managing projects and teams. Also, providing the overall overview of the development process is something that makes Agile stand out from other approaches, and additionally, that is why the company no longer uses the traditional (waterfall) approach. They have been implementing Agile for up to six months and using Jira Software as an Agile project management tool. Jira Software was easy-to-use software for Remote Human and by combining Scrum and Kanban frameworks they were able to solve problems that occur over time. For managing Agile software development projects they mainly use the Kanban framework.

Remote Human's highest priority is to build products for customers and not to satisfy them through early and continuous delivery which is contrary to one of the Agile principles but in harmony with the company's marketing strategy. They are present on the global market and their target group is adults between the ages of 18 to 40. Valuing customer feedback, they create products according to market needs. Frequently delivering to the market and responding to change are Remote Human's principles. They focus on maintaining operational and technical excellence and good design. The company meets the development needs of its employees and enables them to perform diverse work that allows them to better apply the skills they possess. With projects, the company enables employees to further advance and develop their careers. Employees are provided with optimal working conditions. Additionally, the company creates a stable and safe environment for its employees and practices team building. Realizing the expected scope of the project, Remote Human synchronously manages the project budget and time schedule. They are working on improving the performance of products that are the result of projects. Also, they evaluate the results and monitor the impacts of projects.

The application of Agile is very important for the business resilience of the Remote Human. Incremental software releases are the noticeable results of using Jira Software and Agile. In addition, the company is more competitive in the market.

The company's principle is to strive for easy solutions. By using Agile they were able to simplify parallel tasks, eliminate procrastination and save a lot of time. Moreover, Agile project management helped the company to be flexible in time with the aim to bring value to customers. Using Agile, they spend less time planning and can invest more time in project realization. As a company that has cross-functional teams, they strongly believe that projects will be completed faster and with better quality by reducing micromanagement and empowering motivated team members.

Remote Human's management style is having self-organized teams, giving them freedom and motivation. The company's employees regularly reflect on and adjust their way of work to boost effectiveness. They have follow-ups and feedback after implementing changes and the company rewards and encourages employees for achieved results. Also, synchronous communication is the company's most efficient and effective method for exchanging information. The communication between employees is frequent and mostly direct or synchronous. For quickly reaching people and discussing work matters they use social media (Discord, YouTube, etc.) and media press. Remote Human shares important information with its employees and they receive the necessary, useful, and precise information from other employees, the management team, and clients in a timely manner. Also, employees have frequent and mostly direct or synchronous communication with clients. While working on projects, the Agile approach made communication easier between the different stakeholders.

Remote Human's management described the company's strategy as the following quote: "Start small, think big", advising other companies to improve their business resilience by implementing Jira Software and Agile into their work process starting with the basics, Scrum pillars.

5. CONCLUSIONS AND DISCUSSION

Readiness to changes and help, flexibility to challenges, and openness to new practices are preconditions for a company's sustainability, development, and growth in the time of pandemic and uncertain future. Now people are the focus of the business, actually their empathy, as well as their willingness to talk, gain trust, respect each other and collaborate, as opposed to earlier aspirations for high productivity. Due to the changed business conditions caused by the consequences of the global pandemic, companies accepted changes in the field of digitalization of business, partnerships creation, supply chain, sales, and product development. Networking and clustering are particularly important for the modernization and internationalization of business, thus improving the competitiveness of small enterprises. Strategic management and planning are the foundation of survival and success in a turbulent market. The business of small and medium-sized enterprises is mainly project-based and as such requires professional staff in the field of project management and the active use of digital products and tools that contribute to business optimization.

In the case of Remote Human, the application of Agile contributes to the company's productivity and efficiency becoming more competitive in the market which is very important for the business resilience of the company.

Agile enables readiness for changes through support in solving problems that cannot be planned because they arise during the implementation of business activities, i.e. projects. Using the Jira Software tool for implementing the Agile project management approach removes barriers to the application of innovations in the business of small enterprises. Agile supports the market orientation of the business and aligns with the company's marketing strategy, where some companies may strive for customer satisfaction through earlier and continuous deliveries, and others through quality offered and monitoring sophisticated customer needs. Agile allows companies to focus on excellence in the operational, technical, and design aspects of products. The application of Agile puts people in focus so that employees can develop their careers in an adequate business space, safe environment, and team-building events. By applying Agile, the company is also in focus because it is able to complete the project in accordance with the planned activities, time, and budget, as well as to continue with activities that contribute to improving the performance of products that are projects outcomes, to evaluate the project results and follow project impacts. The use of Agile enables remote work so that the company contributes to lower overhead costs, and small businesses work without an office space, in home conditions. Striving for easy solutions, simplifying parallel tasks, eliminating postponing, and saving time are important advantages of using Agile that support a company to be flexible in time putting more attention on work than on planning, and bringing value to customers. Companies that use Agile and have cross-functional teams, by reducing micromanagement and empowering motivated team members, can complete projects faster and with better quality because of good communication channels between employees, clients, and stakeholders.

The application of Agile enables multi-project management, organizing multifunctional remote teams, development, and the monitoring of operational and strategic project plans that include time plans, resource plan, and cost plan. By using tools for project management and planning, the project manager has daily insight into the progress of all project activities, as well as insight into project costs, work results, and the project's time continuity, which guarantees the optimal completion of the project in terms of time and approved budget. The application of Agile enables project plans, project documentation and results of project activities to be visible to all team members according to the assigned responsibility in the project, and allows the project manager to monitor and control, as well as organize meetings on a daily, weekly or monthly level during the implementation of the project. Agile contributes to transparency and the creation of a virtual business environment in which members of the project team interact and can achieve synergy in their work, while the manager creates a positive business climate and the ability to effectively overcome crisis situations.

The authors recommend small and medium-sized enterprises in all economic sectors to improve business resilience by applying Agile will support their enterprises to be more flexible on changes due to strategic planning, timely detect crisis and mobile their resources, implement cost saving and delivery strategies, manage the market-driven business, and develop both internal and external fruitful working atmosphere. Future research should be in the area of applying similar approaches and tools focusing on aspects of relations with clients, employees, and stakeholders and contributing to the development of new digital products to improve the resilience of small and medium enterprises.

6. ACKNOWLEDGMENTS

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